CHAPTER VI

SUMMARY OF FINDINGS, SUGGESTIONS AND CONCLUSION
## CHAPTER VI

### SUMMARY OF FINDINGS, SUGGESTIONS AND CONCLUSION

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CHAPTER – VI

SUMMARY OF FINDINGS, SUGGESTIONS AND CONCLUSION

The growth of the mutual fund industry depends upon the investors' acceptance of mutual fund investment as an ideal investment. Investors vary with reference to their socio-economic background, return expectations and risk taking behavior. Unless the demographic and economic characteristics of the investors are identified, developing products to suit them is very difficult. Assessment of the risk taking behavior of the investors is vital for understanding their asset allocation pattern. Identification of the variables and factors influencing the investors' investment decisions while investing in mutual funds is important. Periodical evaluation of investment performance of the mutual fund schemes sets the track record and this is an aggressive marketing tool in mobilizing savings of individual investors. Hence, the present study revolves around the mutual fund investors and their investment related characteristics in addition to evaluating the different schemes of mutual funds.

The Primary objective of the study is to analyse the investors' perception towards mutual fund investments in Dharmapuri district with a view to guide the investors to make investment decisions rationally and to gain reasonable returns on their investments. The secondary objectives of the study are as follows:

1. To study the performance of selected mutual fund schemes.
2. To analyse the socio-economic profile of the mutual fund investors of Dharmapuri district.
3. To analyse the risk tolerance of the mutual fund investors of Dharmapuri district.
4. To analyse the perceptual factors of mutual fund investors of Dharmapuri district.
5. To offer suggestions to the proposed mutual fund investors to make the right investment decisions.
The present study has been analysed the perception of investors regarding the mutual fund investments and the performance of mutual funds in Dharmapuri district. Both the primary and secondary data were used in this study.

The primary data were collected from the existing individual investors who have invested mutual funds in Dharmapuri district with the help of a structured interview schedule.

The secondary data were collected mainly from the Journals and Magazines such as Applied Finance, Behavioural Finance, Financial Research, Indian Journal of Marketing, Charted Financial Analyst, Fortune India, Mutual Fund Insight, Business India, Business World and Capital Market. The reports of Securities and Exchange Board of India, Association of mutual funds of India, Reserve Bank of India, National Stock Exchange and Centre for Monitoring Indian Economy were also referred. The financial dailies such as Financial Express, Economic Times, Business Line etc., were used to get necessary details on mutual funds. In addition to that the websites such as, www.mutualfundsindia.com, www.indiacapitalmarket.com, www.amfi.com, were also visited.

As on 11.10.2006, there were 1069 mutual fund investors in Dharmapuri district constituting the population frame for the study. Applying the formula for selection of sample at 95 percent confidence level and 0.3 p value, the optimum sample size worked out to 342. It is considered appropriate to make the sample efficient, representative and reliable.

Stratified random sampling method was adopted in selecting the respondents from various parts of the district. Visits to different branches of the mutual fund companies, mutual fund investment consultants, and offices of the agents proved fruitful in identifying the mutual fund investors. The interview schedule was administered in person to the respondents who have invested in mutual funds. For analysing the investment performance of sample mutual fund schemes, 42 schemes were chosen as per the priority given by the respondents. This sample size fairly
explains the investment performance of mutual fund schemes during the period from April 2002 to March 2007.

6.1 OBJECTIVE – I: TO STUDY THE PERFORMANCE OF SELECTED MUTUAL FUND SCHEMES

The investment performance of the selected schemes throws light on the rate of return investor gets from his investments in mutual funds. Only a better rate of return can win the confidence of the investors. Totally 42 schemes, from equity fund, income fund, balanced fund, money market fund and gilt fund have been considered for analysis. The investment performance evaluation of the sample mutual fund schemes is based on the average monthly return calculated on the basis of the month end net asset values, averages, percentages, ratios, standard deviations and regression analysis are the statistical tools used in evaluating the performance of the sample mutual fund schemes. The outcomes of the performance evaluation are given in the following order:

- Analysing the NAVs of the sample schemes.
- Analysing the average annual risk and returns of sample schemes.
- Analysing the risk and return of mutual fund schemes with benchmark portfolios.
- Analysing the unique risk and extent of diversification.

**NAVs of the Sample Schemes**

The average annual net asset values were calculated on the basis of yearly net asset values from the five year data for all 42 sample schemes. The analysis revealed that all the equity schemes were providing safety of capital and Reliance Growth Fund
was ranked number one on the basis of net asset values and standard deviations. The second rank was occupied by Franklin India Prima Fund in terms of returns. The last rank (i.e. 42nd rank) was occupied by Tata Equity Opportunities Fund in terms of returns.

All the 8 income schemes were providing safety of capital. Birla Income Plus-Retail Scheme was having the highest net asset value (27.52) and UTI-Bond Advantage Fund-LTP was having the lowest net asset value (16.98). Tata Income Fund was having high standard deviation and UTI-Bond Advantage Fund was having low standard deviation.

It is found that all the nine balanced schemes were providing safety of capital. HDFC Prudence Fund was having the highest net asset value (57.82) and Tata Young Citizens Fund was having the lowest net asset value (14.82). HDFC Prudence Fund was having the high standard deviation (29.56) and UTI-Retirement Benefit Plan was having low standard deviation (1.14).

The analysis revealed that all the five money market schemes were providing safety of capital. Birla Cash Plus Retail Scheme was having the highest net asset value (17.55) and standard deviation (1.31) and BOB Liquid Fund was having the lowest net asset value (11.67) and standard deviation (0.90).

Among the five gilt fund schemes, Birla Gilt plus Regular scheme was having the highest net asset value (20.5) and standard deviation (1.94). Prudential ICICI Gilt-Investments Scheme occupied second rank on the basis of net asset value and standard deviation. UTI-Gilt Advantage Fund-LTP was having low net asset value (13.41) and HDFC Gilt Fund LTP was having the low standard deviation (1.10)

**Average Annual Risk and Return**

The rates of return for all the 42 schemes were calculated on the basis of average monthly net asset values. The dividend payments were included for
determining the net asset based annual returns. The overall annual average risk and returns were calculated from the five years data for all the 42 schemes.

All the 15 equity schemes had yielded positive returns. The overall maximum return was from Reliance Growth Fund which was followed by Reliance Vision Fund. The overall minimum return was from Can Equity Tax Saver. Prudential ICICI Tax plan was having the highest risk and Franklin India prima plus was having the lowest risk.

All the eight income schemes had yielded positive returns. The overall maximum returns and risk were from Tata Income Fund. There were not many differences among the schemes on the basis of overall annual average risk and returns.

All the nine balanced schemes had yielded positive returns. The overall maximum returns were from HDFC Prudence Fund with 2.77% and minimum returns were from UTI- Retirement Benefit Plan with 0.31%. The overall maximum risk was from ICICI Balanced Fund and minimum risk was from Tata Young Citizens Fund.

In the case of money market schemes, the overall maximum returns were from Can Liquid Fund with 0.49% which was followed by the BOB Liquid Fund with 0.47%. The remaining three schemes provided the same returns with 0.46% each. The overall maximum risk was from HDFC Liquid Fund and the minimum risk was from Prudential ICICI Liquid Fund.

As far as the gilt fund schemes are concerned, the overall maximum returns were from UTI-Gilt Advantage Fund- LTP with 0.66% and minimum returns were from UTI-Gilt-sec Fund will 0.46%. The overall maximum risk was from Prudential ICICI Gilt- Investment and the minimum risk was from UTI-G-Sec Fund.

Risk and Return of Mutual Fund Schemes with Benchmark Portfolios

It is found that out of 42 schemes, 12 schemes had not earned more than risk free return. All the 15 equity schemes had earned more than the risk free return. 4 income schemes, 1 balanced scheme, all the 5 money market schemes, 2 gilt fund
schemes had not earned more than the risk free return. Out of 42 schemes, 29 schemes had not earned more than the market return. There were only 13 schemes, 12 from equity fund and 1 from balanced fund which earned a higher than the risk free return and return on the benchmark portfolio. Out of 42 schemes, 14 equity schemes had more risk than market risk. All the schemes from income fund, balanced fund, money market fund and gilt fund had less risk than the market risk. Out of 15 equity schemes, only one scheme ICICI prudential Tax Plan had high systematic risk and the remaining 14 schemes reflected a moderate amount of systematic risk. Among the 8 income schemes, Tata income fund reflected a negative systematic risk. Only 1 balanced scheme namely, UTI-Retirement benefit plan had a low systematic risk. Out of 5 money market schemes, 3 schemes reflected a negative systematic risk. As far as the gilt fund schemes, all the five schemes had a moderate systematic risk.

It can be concluded that the return and risk are not always in conformity with the stated objectives and systematic risks are not even the same in the same fund category. The calculated average free return and average market risk for all the 42 schemes were the same with 0.506 and 5.485 respectively.

**Unique Risk and Diversification**

It could be seen that the average unique risk of the equity sample scheme is 3.219, income sample scheme is 1.888, balanced sample scheme is 2.475, money market sample scheme is 0.565 and the gilt fund sample scheme is 1.321 per month while the average diversification of the equity sample scheme was 0.724, income sample scheme was 0.029, balanced sample scheme was 0.582, money market sample scheme was 0.043 and gilt fund sample scheme was 0.090. Of the 15 equity schemes, 8 schemes showed less than the average unique risk. Of the 8 income schemes, only one scheme namely Tata Income Fund showed higher than the average unique risk. Out of 9 balanced schemes, only 4 schemes showed higher than the average unique risk. Of the 5 money market schemes, only one scheme namely Birla Cash Plus showed higher than the average unique risk. Out of 42 schemes, 19 schemes had a
higher degree of diversification than the average extent of diversification. Hence, it can be concluded that the mutual fund schemes’ risks are not adequately diversified.

**Performance Evaluation of Sample Schemes**

**Sharpe Ratio:** Out of the 42 schemes, only 18 schemes (42.8%) had better Sharpe ratios in comparison to the relevant benchmark portfolios. Of the 18 schemes, 13 are from equity schemes and 5 from balanced schemes. Reliance Vision is the top performer in the equity schemes and Kotak Balance is the top performer in the balanced schemes.

**Treynor Ratio:** It can be seen that out of the 42 schemes, 17 schemes had outperformed the benchmark in terms of volatility. Reliance Growth Fund is the top performer in the equity schemes. HDFC Prudence is the top performer in the balanced schemes. Interestingly, among the 17 schemes, 16 schemes outperformed in respect of Sharpe ratios too. Only one scheme namely Can Equity Tax Saver had offered returns more than the benchmark in respect of Sharpe ratio.

**Jensen measure:** It is inferred that out of the 42 schemes, alpha values for 22 schemes were positive thereby indicating superior performance. In other words, these schemes had generated returns in excess of equilibrium return. The value of alpha is an absolute, which indicates differential return of the portfolio between equilibrium return and actual return. It is noted that equilibrium return of a fund is the return that is expected to earn with the given level of systematic or market risk. The additional return earned by the fund manager over equilibrium return can be attributed to his ability to select the securities.

The results indicate that alpha values for only three schemes viz., Franklin India Prima Fund, Reliance Growth Fund and Reliance Vision Fund, were found to be statistically significant, thereby implying that these three schemes have generated above normal returns. A positive significant alpha will mean that the schemes provide
superior risk adjusted returns. The result of the study reveals that out of the 42 schemes, only 3 schemes are having positive and significant values.

**Sharpe Differential Return Measure:** Out of the 42 schemes, 16 schemes (38%) reflected positive differential returns, thereby indicating superior performance. The top two performers are Reliance Growth Fund and Reliance Vision Fund. The remaining 26 schemes showed negative differential returns indicating that they could not generate returns commensurate with the risk they assumed. A comparison of Sharpe differential returns and Jensen alpha indicates the impact of selectivity and diversification on the funds returns.

**Fama’s Components of Investments Performance:** It can be seen that all the 5 money market schemes and the only 1 income scheme namely, Tata Income Fund had provided negative performance and the remaining 36 schemes had provided positive performance on account of risk bearing activity of fund managers. A positive net selectivity will indicate superior performance. However, if the net selectivity is negative then it would mean that the fund managers have taken diversifiable risk that has been compensated by extra returns. Hence, it could be inferred that only 16 schemes (38%) appeared to have superior stock selection ability as the selectivity measure was found to be positive. The two top performers with regard to selectivity were Reliance Growth Fund and Reliance Vision Fund.

6.2 OBJECTIVE –II: TO ANALYSE THE SOCIO – ECONOMIC PROFILE OF THE MUTUAL FUND INVESTORS OF DHARMAPURI DISTRICT.

The second objective of the study is to examine the socio-economic profile of mutual fund investors. The socio-economic profile of the investor plays an important role in investment decision making. The study takes into consideration of fifteen variables to describe the socio-economic profile of the mutual fund investors. Statistical tools like percentages, averages, and chi-square test are used to draw inferences. The outcome of the analysis of socio-economic profile of the mutual fund investors is given below.
• **Age wise Distribution:** Considering the age distribution of mutual fund investors, 15.5% of the mutual fund investors are below 30 years, 24.4% of the investors fall in the age group 31-40 years, 28.1% of the investors are between 41-50 years, 21.6% of the investors are between 51 and 60 years and only 9.4% of the investors are above 60 years. Hence, it is concluded that the majority of the mutual fund investors are from the age group of 41-50 years.

• **Sex-wise Classification:** The sex-wise classification of mutual fund investors reveals that out of 342 respondents, 284 are males and the rest 58 are females. That is 83% were males and 17% were females. It may be noted that the perception differs according to the sex of the investors.

• **Educational Background:** The educational background of the mutual fund investors reveals that 26.3% of the mutual fund investors are matriculates, 41.2% of the investors are graduates, 19.9% of the investors are post graduates and 12.6% of investors were having below matriculate level of education. Hence, it is concluded that the mutual fund investors are an educated mass having formal education. This formal education enhances the understanding of the concept of mutual funds.

• **Occupational pattern:** The occupational pattern of the respondents reveals that 54.4% of the sample investors are in service belonging to the salaried class. They constitute the majority. Self employed and professional respondents were 22.5% and 12.3% of the sample respectively. Hence, majority of the mutual fund investors belong to the salaried class.

• **Monthly Income:** The monthly income of the sample respondents reveals that 44.7% of the respondents fall in the income group Rs. 10,000-20,000 and 23.7% of the respondents earn a monthly income between Rs.20,000-30,000. Only 8.5% respondents fall in the highest income group of more than Rs.30,000. Hence, majority of the respondents' earnings range between Rs. 10,000-20,000 per month.
• **Saving Pattern:** Mutual fund investors' saving pattern shows that out of 342, 123 respondents saved around 10-20% and only 42 respondents save more than 30% per month. Hence, the majority consists of investors who save 10 to 30 percent of their earnings.

• **Investment Objectives:** The investment objectives of the sample respondents reveals that 28.1% of the respondents prefer regular income, 23.4% of the respondents prefer the investment objective of capital appreciation and 22.2% of the respondents are associated with tax planning. Hence, it is concluded that mutual fund investors seek regular income as well as income and growth while investing in mutual funds.

• **Sources for Investment:** Among the mutual fund investors, 81% of the investors invest their current earnings in mutual funds and the remaining 19% of the respondents depend on their past savings. Hence, the mutual fund investors invest from their current income.

• **Scheme preference:** It is inferred that 286 respondents forming 83.6% of the sample prefer open-ended scheme and only 16.4% of the respondents favour close-ended schemes. Hence, mutual fund investors prefer open-ended funds to close-ended funds.

• **Preference of Asset Management Company:** It is inferred that 59.9% of the respondents prefer private sector asset management companies, 23.1% of the respondents prefer institutional companies and only 17% of the respondents prefer bank sponsored asset management companies. Hence, mutual fund investors prefer private sector asset management companies to other forms of asset management companies.

• **Preference of the Private Sector AMC:** When questioned about their preference of the private sector asset management companies, 54.1% of the investors prefer joint-venture -predominantly Indian companies and only 15.6% of the respondents prefer to invest in joint-venture-predominantly foreign companies. The remaining 30.2% respondents prefer to invest in Indian
companies. Hence, the mutual fund investors prefer joint-venture-predominantly Indian companies to other forms of private sector companies.

- **Investment Periods**: It is found that 45.6% of the sample constitutes respondents with 1 to 3 year(s) investments period. 40.1% of the respondents invest for a period of more than 3 years. Hence, it can be concluded that mutual fund investors have 1-3 year(s) investment period.

- **Financial Journal Referred**: It is inferred that 37.1% of the respondents refer only one financial journal, 26.3% of the respondents refer two journals. Those who refer more than two journals form 17.8% of the sample size. 18.7% of the respondents do not refer any financial journal and they depend on the advice and counseling from third parties. Hence, it is concluded that an average mutual fund investor refers one financial journal to guide him in his investment decision making.

- **Long Term Goal (Multiple Responses)**: In the sample, 36.8% of the sample said that they saved and invested in mutual funds to meet children's education and 32.5% of the sample invested in mutual funds to meet children's wedding, 21.1% of them said that they invested in mutual funds to buy a house. 16.4% of the sample invested in mutual funds to take care of their post-retired life span. Hence, children associated commitments form the long term goal of the mutual fund investors.

- **Number of Respondents invested in Various Schemes**: Majority of the respondents (150) preferred to invest in balanced and growth schemes which are followed by income schemes (114). Despite, the money market and gilt fund schemes offering liquidity and safety, only less number of respondents have invested in these two schemes.

- **Age and the Investment Objectives**: Chi-square test was applied to the test the hypothesis. As the calculated value is more than the table value, the null
hypothesis is rejected. This shows that there is significant relationship between age and investment objectives.

- **Age of the Respondents and the Sources of Income**: Chi-square test was applied to test the hypothesis. As the calculated value is greater than the table value, the null hypothesis is rejected. This shows that there is significant relationship between age and the sources of income.

- **Age of the Respondents and the Preferred Scheme**: It is inferred that there is no significant relationship between age of the respondents and the preferred scheme.

- **Age of the Respondents and the Preferred AMC**: It is inferred that there is no significant relationship between the age and the preferred asset management company.

- **Age of the Respondents and the Period of Investment**: It is concluded that there is a significant relationship between the age of the respondents and investment period.

- **Age of the Respondents and Financial Journals Referred**: It is inferred that there is no significant relationship between the age of the respondents and the financial journals referred.

- **Sex of the Respondents and the Investment Objectives**: It is inferred that there is no significant relationship between sex of the respondents and the investment objectives.

- **Sex of the Respondents and the Sources of income**: It is concluded that there is no significant relationship between sex of the respondents and the sources of income.

- **Sex of the Respondents and the Preferred Scheme**: It is inferred that there is no significant relationship between sex of the respondents and the scheme preference.
• Sex of the Respondents and the Preferred AMC: It is inferred that there is no significant relationship between the sex of the respondents and the preferred asset management company.

• Sex of the Respondent and the period of Investments: It is seen that there is no significant relationship between the age of the respondents and the investment period.

• Sex of the Respondents and Financial Journals Referred: It is inferred that there is no significant relationship between the sex of the respondents and the financial journals referred.

• Educational Level of the Respondents and the Investment Objectives: It is inferred that there is no significant relationship between educational level of the respondents and the investment objectives.

• Educational Level of the Respondents and the Sources of Income: Based on the chi-square test, it is inferred that there is a significant relationship between educational level of the respondents and the sources of income.

• Educational Level of the Respondents and the Preferred Scheme: It is concluded that there is no significant relationship between educational level of the respondents and the scheme preference.

• Educational Level of the Respondents and the Preferred AMC: It is seen that there is no significant relationship between the educational level of the respondents and the preferred asset management company.

• Educational Level of the Respondents and the Period of Investments: It is inferred from the chi-square test that there is no significant relationship between the educational level of the respondents and the investment period.

• Educational Level of the Respondents and Financial Journals Referred: Based on the chi-square test it is concluded that there is no significant
relationship between the educational level of the respondents and the financial journals referred.

- **Occupation of the Respondents and the Investment Objectives:** It is inferred from the chi-square test that there is a significant relationship between occupation of the respondents and the investment objectives.

- **Occupation of the Respondents and the Sources of Income:** It is concluded that there is a significant relationship between occupation of the respondents and the sources of income.

- **Occupation of the Respondents and the Preferred Scheme:** It is preferred that there is no significant relationship between occupation of the respondents and the scheme preference.

- **Occupation of the Respondents and the Preferred AMC:** From the chi-square test it is inferred that there is a significant relationship between the occupation of the respondents and the preferred asset management company.

- **Monthly Income of the Respondents and the Investment Objectives:** It is inferred that there is a significant relationship between the monthly income of the respondents and the investment objectives.

- **Monthly Income of the Respondents and the Sources of Income:** There is a significant relationship between monthly income of the respondents and the sources of income.

- **Amount Saved Per Month and the Sources of Income:** It is inferred from the chi-square test that there is a significant relationship between the amount saved per month by the respondents and the sources of income.

- **Investment Objectives and the Sources of Income:** It is inferred from the chi-square test that there is no significant relationship between the investment objectives of the respondents and the sources of income.
Sources of Income and the period of Investments: It is inferred from the chi-square test that there is a significant relationship between the sources of income of the respondents and the investment period.

To sum up the socio-economic profile of the mutual fund investors, middle aged males, graduates, belonging to salaried class, with the monthly income ranging between Rs 10,000-20,000 are associated with the investment-objectives of regular income as well as income and growth, depended on current sources of income, preferred open-ended scheme, preferred private sector asset management companies, with 1-3 years period of investment, referred only one financial journal, with children associated long term goals. There is significant relationship between age and investment objectives, between age and sources of income, between age and period of investments, between educational level and sources of income, between educational level and financial journals referred, between occupation and sources of income, between occupation and AMC preferred, between monthly income and investment objectives, between monthly income and source income, between amount saved per month and source of income, between sources of income, and period of investments.

6.3 OBJECTIVE – III: TO ANALYSE THE RISK TOLERANCE OF MUTUAL FUND INVESTORS AND TO CORRELATE THE SAME WITH THE SOCIO-ECONOMIC VARIABLES

The analysis of risk tolerance of the mutual fund investors is given in the following order:

1. Quantifying the Risk Tolerance of the Mutual Fund Investors. The questionnaire administered to the mutual fund investors included 16 questions (statements) from 18 to 33 with five alternate choices to assess the risk tolerance of the mutual fund investors. Summing up the points awarded for each response of the investor gets the risk tolerance score of the mutual fund investors. The minimum score for risk tolerance could be 16 and the maximum being 80. The average risk tolerance score of all the respondents works out to be 35.77 with the standard deviation of 7.90.
2. Identification of the Socio-economic Variables Associated with Risk Tolerance.

The investors are classified based on the socio-economic variables. The mean risk tolerance score is calculated for different samples of the socio-economic variables. The difference among the various groups of the socio-economic variables in the risk tolerance of the mutual fund investors was established with the help of mean risk tolerance scores. F-test is applied to test the significant difference of more than two group means and t-test is applied to test the significant difference between two group means in respect of the socio-economic variables. Regression analysis was applied to find the effect of selected independent variables such as age, sex, education and other income and investment related variables on risk tolerance. Multiple correlation was also applied to find the effect of all these independent variables together on risk tolerance. The socio-economic variables that exhibited significant association with risk tolerance are given below.

- **Source of Income**: 277 respondents with current income have the highest mean risk tolerance score at 36.18 and 65 respondents who depended on past saving for their investment have the low risk tolerance score being 34. It is concluded that there is a significant difference between group I and II of the sources of income in the average risk tolerance score. Hence, the null hypothesis is rejected.

- **Investment Period**: The respondents who invested for one year period have the highest risk tolerance score at 38.59 and the respondents who invested for more than three years of investments have the lowest risk tolerance score at 34.48. It is concluded that there is a significant difference among the three groups in the average risk tolerance score. Hence, the hypothesis is rejected.

- **Number of Investments in Balanced Scheme**: It is found that out of 342 respondents, 192 respondents did not invest even in one scheme, 21 respondents invested in two schemes have the high mean risk tolerance score and 129 respondents who invested in one scheme have the low mean risk
tolerance score. It is concluded that there is a significant difference among the three investment groups in the average risk tolerance score. Hence, the null hypothesis is rejected.

The list of socio-economic variables which are less associated with risk tolerance is given below.

1. Monthly income.
2. Amount saved per month.
3. Investment objectives.
4. Scheme preference.
5. Preference of asset management company.
7. Systematic investment.
8. Number of investments in growth scheme.
9. Number of investments in income scheme.
10. Number of investments in money market scheme.
11. Number of investments in gilt fund scheme.

**Regression analysis on Risk Tolerance**

Regression analysis was applied to find the effect of selected independent variables such as age, sex, education and other income and investment related variables on risk tolerance. Among the several independent variables, amount saved per month had a positive effect on risk tolerance, indicating the respondents who saved more are having high risk tolerance. Other independent socio-economic variables such as age, education, monthly income have negative effect on risk tolerance. This indicates that the respondents in the later age group are less risk tolerant than those who are in the younger age. Similarly, respondents with higher education have low risk tolerance. Also it is found that the respondents with high income have preferred low risk. It is also found that female respondents are more risk tolerant than male respondents. As far as source of income is considered those who
have invested with their past savings are less risk tolerant than those who have invested with their current savings.

All these variables indicate their effect on risk tolerance either positively or negatively. However, when the t-test was applied to find out whether these variables contribute significantly to the risk tolerance levels, very few are found to have a significant effect on risk tolerance. Period of investment, children’s education and number of investment made in balanced scheme affect the risk tolerance levels significantly at 5% level when the t-test was applied. The other variables are found to have no significant effect on risk tolerance.

Multiple correlation was obtained to find the effect of all these independent variables together on risk tolerance. The multiple correlation value was found to be 0.293, whose F-test value (1.689) shows that these variables together affect the risk tolerance at 5% level of significance.

3. The overall Risk Tolerance of Mutual Fund Investors

To give an overall picture of the risk tolerance of mutual fund investors, the investors are divided into three categories based on their risk tolerance scores. The investors having less than 32 as their risk tolerance scores are considered investors with low risk tolerance and they form 61.7 percent of the sample. The investors with risk tolerance score ranging between 33 to 40 are considered investors with moderate risk tolerance and they form 17.5 percent of the sample. Only 20.8 percent of the sample happens to be high risk tolerant investors with their risk tolerance scores more than 41. Hence, it is concluded that 79.2 percent of the mutual fund investors are from low and moderate risk tolerance groups.

6.4 OBJECTIVE IV: TO ANALYSE THE PERCEPTUAL FACTORS OF MUTUAL FUND INVESTORS OF DHARMAPURI DISTRICT

The forth objective of the study is to identify the perceptual factors which influence the investors to invest in mutual funds. The analysis is done in the following order:
1. **Identifying the Perceptual Factors with Factor Analysis**

The general purpose of factor analysis is to find a method of summarising the information contained in a number of original variables into a smaller set of new composite dimensions (Factors) with minimum loss of information. That is, the Factor Analysis tries to identify and define the underlying dimensions in the original variables. Factor analysis usually proceeds in four steps:

**Step 1:** Correlation matrix for the 42 variables, that is, statement 34 to statement 75 was analysed initially for possible inclusion in Factor Analysis. Usually a correlation value of 0.3 is taken as sufficient to explain the relation between variables. All the variables have been retained for further analysis. Further, two tests are applied to the resultant correlation matrix to test whether the relationship among the variables is significant or not. One is Bartlett's test of sphericity. The test value is 10159.139. Another test is Kaisier –Meyer-Olkin measure of sampling adequacy. The value of the test is 0.831.

**Step 2:** Second step is to determine the method of factor extraction, number of initial factors and the estimates of factors. Here, Principal Components Analysis (PCA) is used to extract factors. In the factor matrix PCA extracted nine factors.

**Step 3:** The Rotation phase of the factor analysis attempts to transfer initial matrix into one that is easier to interpret. It is called the rotation of the factor matrix. The Varimax Rotation method is used to minimise the number of variables that have high loading on a factor. The Rotated Factor Matrix using Varimax Rotation in which each factor identifies itself with a few set of variables.

**Step 4:** In the forth step, scores for each factor can be computed for each case. These scores are then used for further analysis. However, original values of the variables were retained for further analysis and factor scores were thus obtained by adding the values of the respective variables for that particular factor for each respondent. Thus, the 42 variables in the data were reduced to nine factor models and each factor may be identified with the corresponding variable.
2. Correlation between Perceptual Factors and Risk Tolerance Score

It could be found that neither each of the nine individual perceptual factors nor the overall perceptual factor correlates with the risk tolerance score. These factors, individually or wholly have very little correlation with risk tolerance.

It could also be found that the “Investment Factor” has more correlation \( r=0.658 \) with overall perception. That is, investment is the factor which helps more to the overall perceptual factor than other factors. Next factor which contributes more to the overall perception is Scheme Factor \( r=0.642 \) followed by Risk Factor \( r=0.625 \), Return Factor \( r=0.622 \). Political Factor is the least correlated factor with overall perception, that is the Political Factor helps least to improve the overall perception of the respondents.

Association between Perceptual Factors and Socio-economic Profile

The association between these perceptual factors and the socio-economic profile is established with the help of mean scores. The socio-economic variables that exhibited significant difference with the perceptual factors are given below:

- **Tax Factor and Sex:** It was seen that the mean score for the female respondents was 11.60 and male respondents was 11.24. It is concluded that there is a significant difference between male and female in the average perceptual score.

- **Tax Factor and Amount Saved per Month:** It was seen that the mean score for saving 20-30% and above 30% were 11.54 and 11.21 respectively. The respondent with less than 10% of amount has the low mean score (10.96). It is concluded that there is a significant difference among the four groups of amount saved per month in the average perceptual score.

- **Cost Factor and Monthly Income:** It was seen that mean score for Rs. 10,000 – 20,000 monthly income was low (14.75) and mean score for the above Rs. 30,000 monthly income was high (15.38). It is concluded that there
is a significant difference among the four groups of monthly income in the average perceptual score.

- **Return Factor and Monthly Income**: It was seen that the mean score for the below Rs.10,000 monthly income was low (14.61) and mean score for the Rs.20,000 – 30,000 monthly income was high. It is concluded that there is a significant difference among the four groups in the average perceptual score.

Among the nine perceptual factors, the mutual fund investors of the Dharmapuri district have mainly considered three factors such as cost factor, return factor and tax factor than all other factors. It is concluded that the mutual fund business in the district is still in its embryonic stage. So, concerted efforts are needed for its success. The success depends upon less transaction cost, low management fee, high returns, penetrating suburban and rural areas, efficient administrative system, introducing innovative schemes and tax concession.

6.5 OBJECTIVE V: TO OFFER SUGGESTIONS TO THE PROPOSED MUTUAL FUND INVESTORS TO MAKE THE RIGHT INVESTMENT DECISIONS

The following suggestions have been offered to the proposed mutual fund investors of Dharmapuri district to make the right investment decisions.

1. From the analysis it is inferred that the risk and return of the mutual fund schemes are not always in conformity with their stated investment objectives. It is suggested that the mutual fund investors should seek necessary guidance from the reliable mutual fund brokers or agencies to find the mutual fund schemes which are always in conformity with their stated investment objectives.
2. It is inferred that the mutual fund schemes are not reasonably diversified. Hence it is suggested that the mutual fund investors should have an adequate knowledge to find the mutual fund schemes which are properly diversified.

3. From the analysis it is found that out of 42 schemes 12 schemes have not earned even more than risk-free return. Therefore, it is suggested that the mutual fund investors should have an adequate knowledge to find the mutual fund schemes which are providing minimum guarantee return or assured return at least at the prevailing bank rate of interest.

4. It is observed that the different mutual fund companies have been offering the varied rate of return on investment. Hence it is suggested that the mutual fund investors of Dharmapuri district should select the professionally well-managed asset management company while making investments in mutual funds.

5. It is also inferred from the analysis that the socio-economic variables do alter the risk tolerance of individual investors. Hence it is suggested that the mutual fund investors of Dharmapuri district should consider these socio-economic variables while making investment decisions.

6. It is inferred that the respondents in the later age group are less risk tolerant than those who are in the younger age. Similarly, respondents with higher education have low risk tolerance. Also it is found that the respondents with high income have low risk tolerance. It is also inferred that the frequency distribution of the respondents based on their risk tolerance as low, moderate and high which indicate that more respondents (61.7%) are in the low risk tolerance level, whereas only 20.8% of the respondents are in the high risk tolerance level. The remaining 17.5% of the respondents like to take moderate risk in investments. It is suggested that the mutual fund investors of the Dharmapuri district should have a reasonable level of risk tolerance and also the mutual fund investors prepare themselves to accept at least moderate risk while investing in mutual funds.
7. It is inferred that the 42 variables in the data were reduced to 9 factor models such as growth factor, risk factor, investment factor, administrative factor, tax factor, cost factor, return factor, scheme factor and political factor. It is suggested that based on the factor analysis and correlation between each factor and overall perceptual factor score, the investors of Dharmapuri district should mainly consider the cost factor, tax factor and return factor rather than other factors.

**SUGGESTIONS TO THE MUTUAL FUND COMPANIES**

The following suggestions if implemented would have a favourable impact on the mutual fund investors.

- The age distribution of the investors reveals that investors from different age groups invest in mutual fund schemes. Mutual funds should launch innovative and a variety of schemes varying in terms of risk, liquidity and choice of the investors.

- The analysis of the sample of the mutual fund investors reveals that the mutual fund investors are an educated mass and urban based. The mutual fund industry should make a sincere effort in penetrating the rural and semi-urban market.

- A majority of mutual fund investors are in service who belong to the salaried class. Hence, attractive tax planning schemes should be introduced which would motivate pay-roll savings. The mutual fund industry should make an effort to cover the prospective investors of unorganised sector also.

- Mutual fund companies should focus on quality distributors who can convey the right message to the prospective investors. The mutual funds should encourage institutionalised distributors. If underwriting of mutual fund schemes is introduced this may boost the confidence of the investors in mutual funds.
The study reveals that the mutual fund investors come from low and moderate risk tolerance groups. Indian mutual funds should design innovative products not only for the conventional risk-averse investors but also for the emerging risk taking investors to attract high-risk taking investors.

To instill confidence in the minds of the investors about investing in mutual funds, effort should be made by the individual asset management company and also by the mutual fund industry as a whole where the benefit can be passed on to the members. The study concludes that fund manager's ability as an important criterion that motivates investors to invest in mutual funds. The superior service of the fund manager to the investors would be in the form of securing stability in return.

The mutual funds should conduct nation-wide educational programme to create awareness and understanding of investing in mutual funds as understanding of the concept is vital in investment decision making. The Association of Mutual Funds of India should take up the initiative in designing and disseminating the relevant literature to the prospective investors.

The concept of mutual fund investment has not reached the rural mass in India. The mutual fund companies should formulate suitable marketing strategies to penetrate the rural household sector. A positive media support is to be gained by the mutual fund industry to market their products and to convey the right message to the investors.

Survey on investors should be conducted at frequent intervals to understand the preference and perception of the investors. This would help the mutual fund companies to redesign their products according to investors' need.

From the analysis it is observed that the return and risk of the mutual fund schemes are not always in conformity with their stated investment objectives. It is suggested that the mutual fund schemes should always be in conformity with their stated investment objectives. This will give a good impression in the minds of the investors.
The study reveals that all the sample schemes are not reasonably diversified. Hence, it is suggested that the mutual funds should invest in diversified industries.

It is observed that most of the sample schemes have not earned more than the risk-free rate of return. Therefore, it is suggested that mutual funds should provide minimum guarantee return or assured return at least at the prevailing bank rate of interest to the investors to attract large number of retail investors.

The study observes that most of the schemes exhibit poor timing and selectivity abilities of fund managers. This trend, if it continues, naturally makes the mutual funds obsolete from being a superior financial product. Therefore, there is a dire need to improve this aspect of performance of fund managers.

6.6 CONCLUSION

It is inferred from the performance evaluation of mutual fund schemes that the risk and return of mutual fund schemes were not in conformity with their stated investment objectives. Further sample schemes were not found to be adequately diversified. It is stated that 18 schemes out of 42 schemes selected had superior performance than the benchmark portfolio in terms of Sharpe ratio, 25 schemes had superior performance in terms of Treynor ratio (Systematic Risk), and 22 schemes had superior performance according to Jensen measure. 16 schemes (38%) reflected positive differential returns, thereby indicating superior performance in respect of Sharpe differential return measure and 16 schemes (38%) appeared to have superior stock selection ability as the selectivity measure was found to be positive in respect of Fama's components of investment performance. The funds were able to earn higher returns due to selectivity. But the proper balance between selectivity and diversification was not maintained. The analysis made by the application of Fama's measure indicates that the returns out of diversification were less. Thus the Indian mutual funds are not properly diversified.
It is found that the majority of the mutual fund investors are from the age group of 41 – 50 years and majority of the mutual fund investors who belong to the salaried class with the assurance of a regular income. The Children – associated commitments form the long-term goal of the mutual fund investors. Even though the money market and gilt fund schemes offering liquidity and safety, only less number of respondents have invested in these two schemes.

It is observed that there is a significant relationship between age and investment objectives, age and sources of income, age and preferred asset management company, age and investment period, education and sources of income, occupation of the respondents and the investment objective, occupation of the respondents and the sources of income, occupation of the respondents and preferred asset management company, monthly income of the respondents and the investment objectives, monthly income of the respondents and the source of income, amount saved per month by the respondents and the sources of income and the sources of income of the respondents and the investment period.

It is inferred from the analysis of risk tolerance that the mutual fund investors are from low and moderate risk tolerant groups and the socio-economic variables do alter the risk tolerance of individual investors. The mutual funds must consider these socio-economic variables of the investors that have an important influence on investment decision making so that they can have product ranges, which suit individual needs.

It is inferred that the 42 variables in the data were reduced to 9 factor models by using the factor analysis. The analysis revealed that neither each of the 9 individual perceptual factor nor overall perceptual factors correlates with the risk tolerance score. These factors, individually or wholly have very little correlation with risk tolerance. The “Investment Factor” has more correlation with overall perception. That is, investment is the factor which helps more in overall perceptual factor than other factors. The “Political Factor” is the least correlated factor with overall perception that is the political factor helps least to improve the overall perception of
the respondents. The socio-economic variables that exhibited significant difference with the perceptual factors are Tax Factor and Sex, Tax Factor and Amount Saved Per Month, Cost Factor and Monthly Income and Return Factor and Monthly Income. Among the nine perceptual factors, the mutual fund investors of Dharmapuri district have mainly considered three factors such as cost factor, return factor and tax factor than all other factors. It is concluded that the mutual fund business in Dharmapuri district is still in primitive stage. So, concerted efforts are needed for its success. The success depends upon high returns, professional competence of fund managers' track record, greater transparency, prudent accounting norms, less transaction cost, low management fee, penetrating suburban and rural areas, efficient administrative system, introducing innovative schemes and tax concession.